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| 09/704,936 | 11/02/2000 | Lee A Neitzel | 06005/35528 | 4816 |

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EXAMINER

LEE, ANDREW CHUNG CHEUNG

| ART UNIT | PAPER NUMBER |
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2664

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/704,936

Applicant(s)

NEITZEL ET AL.

Examiner

Andrew C Lee

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>8-5-2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - Fig. 7, the reference legend "500ms tBC" should be corrected as "500 ms TBC"
 - Fig. 10, the X-axis title "Increasing Buf Size" should be corrected as "Increasing Buffer Size".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toporek et al. (U.S. Patent No. 6654344 B1) in view of Owa et al. (U.S. Patent No. 6711379 B1).

Regarding Claims 1, 17, 29, 49, Toporek et al. discloses the limitation of transmitting data through a communication link having a bandwidth using a plurality of communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does

not disclose the method comprising the steps of: establishing a worker object for each one of the communication connections; distributing the data amongst the worker objects; forming messages using the distributed data within each worker object; and delivering the messages formed within each worker object to an underlying layer of the plurality of communication connections so that each communication connection uses no more than a predetermined portion of the bandwidth. Owa et al. discloses the method comprising the steps of: establishing a worker object for each one of the communication connections (Fig. 2, elements 12 – 14; column 3, lines 12 – 15); distributing the data amongst the worker objects (column 6, lines 53 – 57); forming messages using the distributed data within each worker object (column 8, lines 31 – 34); and delivering the messages formed within each worker object to an underlying layer of the plurality of communication connections so that each communication connection uses no more than a predetermined portion of the bandwidth (column 8, lines 38 – 52; column 7, line 61). It would have been obvious to modify Toporek et al. to include a method comprising the steps of: establishing a worker object for each one of the communication connections; distributing the data amongst the worker objects; forming messages using the distributed data within each worker object; and delivering the messages formed within each worker object to an underlying layer of the plurality of communication connections so that each communication connection uses no more than a predetermined portion of the bandwidth such as that taught by Owa et al. in order to provide a digital broadcasting system for broadcast multimedia data consisting of picture, sound, text to a terminal devices.

Regarding Claim 2, Toporek et al. discloses the limitation of the method of claimed further comprising the step of allocating a predetermined portion of the bandwidth to each of the plurality of communication connections (Fig. 3A, column 12, lines 30 – 35; lines 36 – 38).

Regarding Claim 3, Toporek al. discloses the limitation of the method of claimed wherein the step of allocating the predetermined portion of the bandwidth to each of the plurality of communication connections including the step of allocating different predetermined portions of the bandwidth to two of the plurality of communication connections (column 12, lines 37 – 48).

Regarding Claims 4, 35, Toporek et al. discloses the limitation of the method of claimed wherein the step of allocating the predetermined portion of the bandwidth to each of the plurality of communication connections including the step of setting a time between calls parameter for each of the plurality of communication connections (Fig. 3G, column 17, lines 9 – 19).

Regarding Claims 5, 36, Toporek et al. discloses the limitation of the method of claimed wherein the step of allocating the predetermined portion of the bandwidth to each of the plurality of communication connections including the step of setting a

message size parameter for each of the plurality of communication connections (column 15, lines 34 – 36; column 17; 48 – 55).

Regarding Claims 6, 28, 37, 45, 54, Toporek et al. discloses the limitation of the method of claimed wherein the step of allocating the predetermined portion on the bandwidth to each of the plurality of communication connections including the step of setting, a sending buffer size for each of the plurality of communication connections (column 16, lines 41 – 43; column 17; 48 – 55).

Regarding Claims 7, 44, 51, 53, Toporek et al. discloses the limitation of the method of claimed wherein the step of allocating the predetermined portion of the bandwidth to each of the plurality of communication connections includes the step of setting a message size parameter and a time between calls parameter for each of the plurality of communication connections (Fig. 3G, column 15, lines 34 – 36; column 17, lines 17 – 19; lines 48 – 55).

Regarding Claim 8, Toporek et al. discloses the limitation of the method of claimed wherein the step of establishing the worker object for each one of the plurality of communication connections including the step of using the worker object to instantiate one of the plurality of communication connections (column 17, lines 47 – 55).

Regarding Claims 9, 19, Toporek et al. discloses the limitation of transmitting data through a communication link having a bandwidth using a plurality of communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does not disclose the method of claimed further comprising the step of partitioning the data to form a plurality of partitioned data streams prior to distributing the data amongst the worker. Owa et al. discloses the limitation of the method of claimed further comprising the step of partitioning the data to form a plurality of partitioned data streams prior to distributing the data amongst the worker (Fig. 2, elements 12, 13, 14; column 6, lines 53 – 56). It would have been obvious to modify Toporek et al. to include the method of claimed further comprising the step of partitioning the data to form a plurality of partitioned data streams prior to distributing the data amongst the worker such as that taught by Owa et al. in order to provide a digital broadcasting system for broadcast multimedia data consisting of picture, sound, text to a terminal deices.

Regarding Claims 10, 20, 31, 46, 47, 50, Toporek et al. discloses the limitation of transmitting data through a communication link having a bandwidth using a plurality of communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does not disclose expressly the method of claimed wherein the step of partitioning the data to form a plurality of partitioned data streams prior to distributing the data amongst the worker objects including the step of partitioning the data based on a type of data. Owa et al. discloses the limitation of the method of claimed wherein the step of partitioning

the data to form a plurality of partitioned data streams prior to distributing the data amongst the worker objects including the step of partitioning the data based on a type of data (Fig. 2, elements 12, 13, 14; column 6, lines 53 – 61). It would have been obvious to modify Toporek et al. to include the method of claimed wherein the step of partitioning the data to form a plurality of partitioned data streams prior to distributing the data amongst the worker objects including the step of partitioning the data based on a type of data such as that taught by Owa et al. in order to provide a digital broadcasting system for broadcast multimedia data consisting of picture, sound, text to a terminal devices.

Regarding Claims 11, 21, 33, 48, Toporek et al. discloses the limitation of transmitting data through a communication link having a bandwidth using a plurality of communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does not disclose expressly the method of claimed wherein the step of partitioning the data to form a plurality of partitioned data streams including the step of establishing a one-to-one corresponding between the plurality of partitioned data streams and worker objects. Owa et al. discloses the limitation of the method of claimed wherein the step of partitioning the data to form a plurality of partitioned data streams including the step of establishing a one-to-one corresponding between the plurality of partitioned data streams and worker objects (Fig. 2, elements 12, 13, 14; column 6, lines 53 – 61). It would have been obvious to modify Toporek et al. to include the method of claimed wherein the step of partitioning the data to form a plurality of partitioned data streams

including the step of establishing a one-to-one corresponding between the plurality of partitioned data streams and worker objects such as that taught by Owa et al. in order to provide a digital broadcasting system for broadcast multimedia data consisting of picture, sound, text to a terminal devices.

Regarding Claims 12, 22, Toporek et al. discloses the limitation of transmitting data through a communication link having a bandwidth using a plurality of communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does not disclose the method of claimed wherein the step of distributing the data amongst the worker objects including the step of transferring a subset of the data to one of the worker objects in response to a request for data from the one worker object. Owa et al. discloses the limitation of the method of claimed wherein the step of distributing the data amongst the worker objects including the step of transferring a subset of the data to one of the worker objects in response to a request for data from the one worker object (Fig. 2, elements 12, 13, 14; column 13, lines 30 – 41). It would have been obvious to modify Toporek et al. to include the method of claimed wherein the step of distributing the data amongst the worker objects including the step of transferring a subset of the data to one of the worker objects in response to a request for data from the one worker object such as that taught by Owa et al. in order to provide a digital broadcasting system for broadcast multimedia data consisting of picture, sound, text to a terminal deices.

Regarding Claims 13, 23, 30, Toporek et al. discloses the limitation of transmitting data through a communication link having a bandwidth using a plurality of communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does not disclose the method of claimed wherein the step of distributing the data amongst the worker objects including the step of using a data transmission object. Owa et al. discloses the limitation of claimed wherein the step of distributing the data amongst the worker objects including the step of using a data transmission object (column 8, lines 38 – 52). It would have been obvious to modify Toporek et al. to include the method of claimed wherein the step of distributing the data amongst the worker objects including the step of using a data transmission object such as that taught by Owa et al. in order to provide a digital broadcasting system for broadcast multimedia data consisting of picture, sound, text to a terminal devices.

Regarding Claims 14, 24, 25, 43, 52, Toporek et al. discloses the method of claimed wherein the step of forming the messages using the distributed data within each worker object including the step of forming the messages within each worker object using a parameter of that worker object that controls the size of the messages (column 13, element 327, lines 53 – 56).

Regarding Claims 15, 26, 34, Toporek et al. discloses the limitation of the method of claimed wherein the step of delivering the messages formed within one of the worker objects including the step of delivering the messages formed within the one

worker object to the underlying layer based on a parameter of the one worker object that affects the rate at which the messages are delivered to the underlying layer (column 15, lines 35 – 39).

Regarding Claims 16, 27, 42, 56, Toporek et al. discloses the limitation of the method of claimed wherein the step of delivering the messages formed within the one worker object to the underlying layer based on the parameter of the one worker object that affects the rate at which the messages are delivered to the underlying layer including the step of using a time between calls parameter (column 4, lines 1 – 14).

Regarding Claim 18, Toporek et al. discloses the limitation of the system of claimed wherein each of the plurality of worker objects is adapted to instantiate a communication connection (column 17, lines 47 – 52).

Regarding Claim 32, Toporek et al. discloses the limitation of transmitting data through a communication link having a bandwidth using a plurality of communication connections (Fig. 1, Fig. 2, column 5, lines 58 – 64). Toporek et al. does not disclose expressly the system of claimed wherein each of the plurality of worker processes is based on a worker object. Owa et al. discloses the limitation of the system of claimed wherein each of the plurality of worker processes is based on a worker object (column 6, lines 34 – 36; lines 53 – 61). It would have been obvious to modify Toporek et al. to include the system of claimed wherein each of the plurality of worker processes is

based on a worker object such as that taught by Owa et al. in order to provide a digital broadcasting system for broadcast multimedia data consisting of picture, sound, text to a terminal deices.

Regarding Claim 38, Toporek et al. discloses the limitation of a system for transmitting data through a communication link (Fig. 1, column 1, lines 31 – 34) comprising: a communication station having a processor and a memory communicatively coupled to the processor (column 6, lines 1 – 15; elements 111B, 123), wherein the processor is programmed to provide a plurality of work objects that each instantiates a separate communication connection through the communication link and wherein each of the plurality of worker objects includes a set of communication connection parameters that are uniquely configurable to determine the manner in which the data is sent to an underlying layer of the communication link (column 3, line 67; column 4, lines 1- 14).

Regarding Claim 39, Toporek et al. discloses the limitation of the system of claimed wherein the communication station is a sending communication gateway (Fig. 2, elements 205 and 207; column 3, line 11 – 12).

Regarding Claim 40, Toporek et al. discloses the limitation of the system of claimed wherein the communication station is a receiving communication gateway (Fig. 2, elements 203 and 201; column 3, line 11 – 12).

Regarding Claim 41, Toporek et al. discloses the limitation of the system of Claimed wherein each of the separate communication connection using a connection-oriented communication protocol (Fig. 2, elements 229 and 251; column 2, line 11).

Regarding Claim 55, Toporek et al. discloses the limitation of the method of claimed wherein the step of uniquely configuring the set of communication connection parameters uniquely associated with each of the worker processes including the steps of configuring the sets of communication connection parameters to provide a reserved bandwidth for retransmission (column 7, lines 7 – 14).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C Lee whose telephone number is (703) 305-8086. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (703) 305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ACL
20 October 2004


Ajit Patel
Primary Examiner